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# KITCHEN GARDENING

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# KITCHEN GARDENING

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## INTRODUCTION

The diet of the average Indian is unbalanced and poor from the point of view of nutrition. In Indian households, there is an excessive use of cereals, while the consumption of fresh fruit and vegetables, which are essential for the maintenance of good health, is meagre. Vegetables and fruit are the cheapest protective foods, that is to say, foods which build up bodily resistance to disease. But the rise in prices has affected vegetable consumption considerably. To supply oneself with the necessary vegetables proves a big drain on one's income. And the vegetables that the housewife gets in the market morning and evening are seldom fresh.

The difficulty in getting fresh vegetables can be overcome by growing one's own kitchen garden. This would ensure to the family a ready supply of fresh vegetables which are of good quality as well as cheap. Having a kitchen garden will thus be good for both the health and the economy of the household. Besides, kitchen gardening is an interesting hobby.

A kitchen garden is usually laid in the backyard of a residential house and is meant for growing vegetables which feed the cooking pot in the family kitchen.

Till recently, the idea of a kitchen garden was not very popular. At any rate, not as popular as the "Grow More Food" campaign. But now people have begun to take to kitchen gardening and many more are showing interest

in it. A good deal of waste land has now come under vegetable cultivation and the quality of vegetables a kitchen garden is capable of producing has surpassed all expectations.

## PLANNING A KITCHEN GARDEN

Planting a kitchen garden is fairly simple. But it does require some planning. The location, layout, size and shape of the garden are all matters that require a certain amount of forethought.

### Location

Usually there is little choice in the location of a kitchen garden. But if choice is possible, some site in the backyard of the house should be preferred—for two good reasons. First, the waste water from the kitchen, etc., can be easily diverted to the vegetable beds, and, secondly, it is easy for the members of the family to take care of the vegetables in their spare time. Care should, however, be taken to see that the kitchen garden is not situated in a low-lying place which is often ill-drained.

### Sunshine

Sunshine is essential for the growth of vegetables; without it no amount of watering and manuring will be of any help. Even foliage crops require a daily minimum of three hours' sunshine. Fruit plants cannot do without at least five hours of sunshine a day. The kitchen garden should, therefore, be situated in an open place which gets an abundance of sunshine.

## Size

There can be no standard size for a kitchen garden. It varies with the size of the house or cottage to which it is attached. It could be a large-sized kitchen garden of about a thousand square feet, or a middle-sized one of about six hundred square feet. A small-sized house could do with a small kitchen garden planted in its courtyard.

The size of the kitchen garden should also be determined by the size of the family for whom the vegetables are required and the time which they can spare for its care. It is estimated that a family of six members requires about four pounds of vegetables per day. A well-cared-for garden of a hundred square feet can supply this need provided it is well watered, properly manured and cultivated and a number of varieties of quick growing vegetables are sown at regular intervals and in a planned way. As a rule, a small, well-kept garden is preferable to a large one that is poorly cared for. Where a kitchen garden is of a large size, it requires the full time attention of one man.

Houses with no open space attached can grow summer season vegetables like long melon (kakri), bottle gourd (lauki) and sponge gourd (turai) in wooden boxes, empty kerosene oil tins and broken earthenware receptacles by filling them with earth up to a depth of about one foot and adding a seer or two of well-rotted cowdung manure to the soil. The containers have to be kept in a sunny place, and supports provided for the vines to be trained on. An occasional watering of the containers, with provision of holes at the bottom for the excessive water to drain off, is necessary for the proper growth and development of vines. A few vines can produce enough vegetables for a family to go by.

**Shape**

When deciding the shape of the kitchen garden, a rectangular strip of land should be preferred to a square one. The seeding and cultivation of a long, narrow plot can be done more easily, in less time and with less labour than of one which takes shorter rows and involves a greater number of turns.

**Layout**

Proper layout is important in planning a kitchen garden. Irrespective of the size of the garden, its layout should be both convenient and attractive. It should be made into plots which should get plenty of sunshine and should be easily accessible. For this purpose, the whole garden should first be divided into two plots separated by a central pathway; and each plot again divided into beds of a hundred square feet each. This is a suitable size for instalment-sowing and can produce the daily requirements of an average family. These plots should be conveniently accessible from the central path, and should be located away from fruit trees so that they are out of the shade and free from the competition of the wide, spreading roots of trees. Fruit trees like papaya and climbers like bean and gourd can be planted on the sides.

After preparing the land properly, good seeds should be sown in beds. The spacing should be such as to enable the plants to grow without any hindrance. The garden should not be overcrowded with too many things, otherwise the yields will be poor. The best thing is to grow as much as the available space permits.

**Nursery Plots**

If possible, a nursery plot should be provided in the garden. This plot will become a source of supply of

healthy seedlings to the kitchen garden. This plot should be properly manured and only seeds of good quality sown in it.

**Compost Pits**

Compost pits are a great asset to a kitchen garden and should invariably be provided in it. They should be placed in two corners of the garden. Garden wastes, such as dry leaves and plants pulled out after harvest, kitchen wastes and house sweepings and other rubbish can be dumped into them. Bean plants should be trained over these pits to give them shade and also to cut them off from view. Besides helping to keep the garden neat and tidy, the manure pits will help make the garden self-sufficient in the matter of manure. The manure in the pit should be allowed to rot for three or four months before use.

After determining the location, size, shape and layout of the kitchen garden, its boundary should be marked and the land levelled after digging up to a depth of one and a half to two feet. The plot so treated is then ready for cultivation.

**Intensive Cultivation**

The basic principle of kitchen gardening is intensive cultivation. It is necessary that the kitchen garden should have a regular supply of water and liberal doses of organic manures and chemical fertilizers. Care should, however, be taken that there is no overwatering, as this is harmful to the crops. Waste water from the family kitchen can very well be utilised for the garden. With proper watering and manuring, it should be possible to raise two or even three successive crops during the year.

**Seeds**

Better seeds mean a better crop. But good seeds are difficult to get in the market. Therefore care should be taken

to purchase them from reliable nurseries or a Government garden. Only the best variety should be used in the garden. If the seed is not fresh and of good quality, the crop is bound to be poor despite the greatest efforts.

Seed should be stored in an air-tight container or bottles as it loses its germinating power if left exposed to the atmospheric humidity. Old seeds should not be used as they seldom germinate.

### Soil Preparation

Almost all classes of soil in our country are fit for vegetable gardening. At the time of working, the soil should neither be too dry nor too wet. Soil containing plenty of humus (decayed vegetable matter) will grow better vegetables. Manures and fertilizers should be mixed thoroughly in the soil before sowing.

### Irrigation

A good supply of water is necessary for vegetables throughout the growing season. The plant food dissolves in water before it is used by the plant as food. The quantity of water required by different vegetables in different seasons varies considerably. A safe rule is not to allow the leaves to wilt or the soil to become too dry. Irrigation may be repeated after a period of four days to one week in summer and ten to fifteen days in winter, depending upon the kind of crop there is and on the soil conditions prevailing. The best time to water the garden is four o'clock in the afternoon.

### Manures

There is a large variety of manures which can be used for growing vegetables. Organic manures should be applied only after they are well rotted. Otherwise they attract

white ants and have a depressing effect on the yield. A mixture of cowdung, horsedung, bazar sweepings and kitchen waste makes an ideal manure. This can be supplemented by artificial fertilizers like ammonium sulphate. The best way to apply ammonium sulphate is to dissolve a spoonful of it in a gallon (10 lbs.) of water and use the solution for watering the plants.

**Interculture**

Inter-cultivation means stirring the soil as the plants grow. A convenient implement for the purpose is the hand-hoe or the wheel-hoe. The object is to keep the garden clear of all kinds of weeds. Weeds rob the plants of their food and should be destroyed when still small. Those near to the plants can be pulled out by hand.

**Growing of Crops**

Crops should be grown in a systematic way. Perennial crops like parwal, etc., can be planted on one side of the plot so that they do not interfere with the cultural operations of other vegetables and fruit crops. Fruit plants can be grown on the border so that they neither occupy much space nor overshadow the vegetable plants. It is advisable to grow only fruit plants of short duration. Short seasoned and quick growing crops should be planted between rows of longer seasoned ones. For instance, lettuce, radish and carrot should be sown between the rows of cabbage and cauliflower. The vine crops should be planted near the wall so that they can be trained on it. Crops like tomato should be staked to protect them from any kind of damage.

**How Much to Grow**

To ensure a continuous supply of a certain variety of vegetables during the season, it is necessary to sow the

same varieties in two or three plots at intervals of three or four weeks. Lady's finger may be sown five times, brinjal four times, onion three times, cauliflower three times and so on. If the family is very large, the size of the plots can be bigger. Some varieties like arum (arvi) and potato which can be preserved for a long time, can be grown on one plot at the same time. Short duration vegetables like onion, radish, coriander, etc., can be mixed with other vegetables of longer duration like brinjal and cabbage. Coriander, which is required in small quantities for everyday use, can easily be grown on the sides of the beds without interfering with other crops. In this way, all the vegetables generally consumed in an Indian household can be had from the kitchen garden. Summer vegetables like chilli, lady's finger, brinjal, mint (pudina), coriander (dhania), bitter gourd (karela) and bottle gourd (lauki) are available in May, June, July and August. The varieties of winter vegetables are numerous.

### Choice of Varieties

When choosing what vegetables should be planted in the kitchen garden, some factors should be borne in mind. Due regard should be paid to the space available and the nature of the soil. For instance, pumpkins require comparatively more space so that the plant can spread easily; and potatoes cannot be grown if the soil is very sticky or if the winter is very mild. The personal likes and dislikes of the family members should also be considered in choosing vegetables. There are a large number of varieties that can be successfully grown in a kitchen garden (see Appendix for details).

### Improved Pusa Vegetables

The Botany Division of the Indian Agricultural Research Institute, New Delhi, has done extensive research work on

vegetable breeding. As a result, superior varieties of the following vegetable crops have been developed and are available for sowing in the kitchen gardens :

*Cauliflower :* The variety, Pusa Katki, has given a very good performance in Delhi and is recommended for early sowings in July. Seedlings of this variety should not, however, be planted after the middle of August, as cured formation is adversely affected in late sowings.

*Tomato:* An indigenous selection, Improved Meeruti, and an American introduction, Sioux (pronounced Soo), are both excellent varieties. Sioux produces high yields of large, attractive, high-quality fruits. It is becoming increasingly popular.

Another variety, Pusa Red Plum, also known as Hybrid No. 6, has been evolved by crossing the cultivated tomato with a South American wild species. The small, rich, red fruits of this variety are sweet and delicious and contain far more vitamin C and sugar than there are in other varieties. This variety is ideally suited for kitchen gardens and gives the best results when the plants are staked. On account of its high sugar content, its juice is of a fine quality.

Still another variety, which has been produced by crossing Sioux and Improved Meeruti, is Pusa Ruby (also called Hybrid No. 10). This has not only a very high yield, but also possesses a high degree of field resistance to virus and water-logging. The fruit is of a rich red colour.

*Brinjal :* Two varieties, Pusa Purple Long and Pusa Purple Round, are commended. The former is an early, long fruited and prolific bearing variety. Pusa Purple Round is a high yielder with dark purple, round fruits of a very attractive shape. It is less affected by frost than other commercial varieties of brinjal.

*Chilli:* The types of pungent chillies, N.P. 34, 41, 46 and 51 have been popular with farmers. Recently, a prolific-bearing type, N.P. Hybrid 5.1.5, has been evolved. Another recently bred variety, N.P. Hybrid 17-1-1, is also a bumper yielder and is particularly suitable for marketing green. Among the big fruited vegetable capsicums, the American variety, Bell Pepper and the Russian, R. 449., have given excellent performances at Delhi and in Bihar.

*Peas:* A variety of pea, N.P. 29, bred at the IARI, has long been popular. It gives very good yields. The pods are ready in about a hundred days from sowing and the peas, which are sweet and bold, are good both green and dried. Recently, some varieties, introduced from the U.S.A., have shown very good results. Among them, Asauji, Early Badger and Early to Report are early varieties which are ready for the first picking in about fifty-five to sixty-five days. Delwicke Commando and Bonneville are the mid-season varieties and take about ninety days before picking can start. All these varieties produce well-filled pods, each containing five to seven peas. The shelling percentage of these varieties is also good, but among them Bonneville stands out with a percentage of about fifty.

*Cowpea* (Lobia): Cowpea is commonly grown in Delhi State for use as a vegetable, but the varieties in vogue are rather late. Two varieties, Pusa Barsati and Pusa Phalguni, have given very encouraging results. The former is an early variety suitable for sowing during the monsoon and gives its first picking of excellent quality pods in forty-five days. It is fast becoming popular. Pusa Phalguni is recommended for sowing during February-March, and it is ready in sixty days.

*Guar :* For growing in both the summer and the rainy season, the single-stemmed variety, Pusa Sadabahar, which

produces profuse clusters of good-quality pods, is highly suitable. It is ready in about fifty-five days. Another variety, Pusa Mausmi, is ready in seventy-five to eighty days, and should be raised during the rainy season only.

*Sweet Potato:* Pusa Suffaid, a selection from Chinese varieties, has given outstandingly high yields when tried along with local varieties in several States in the north as well as the south. Its white-skinned tubers are large and attractive, and have a low crudefibre content; cooked tubers are sweet and moist. Another fairly good yielder is Pusa Sunehri, a selection from an American variety. It possesses orange flesh and is rich in carotene, which is a precursor of vitamin A.

*Bhindi:* Two crops of bhindi are grown in Delhi State. One is sown in February-March and the other in June-July. For both these crops, the variety Pusa Makhmali is eminently suited. This is an early variety and produces medium-long, yellowish-green, smooth, five-edged fruits.

*Bottle Gourd:* In bottle gourd (lauki, ghiya) there are distinct summer and winter varieties. Care should be taken to grow the right variety in the right season. The Summer Prolific is recommended for the summer and the rainy season. It gives a delightfully prolific crop of long, tender fruits.

*Radish:* Radish is now grown in Delhi State almost all the year round. For the main season crop, sown in October, the Chinese variety, China Red, is very suitable. The roots of this variety, having an attractive bright red skin, are medium-sized and are ready in about forty-five days. Another variety with white skin, imported from Japan, has also given very good results in Delhi. It

produces uniformly white, shapely and attractive roots of mild pungency.

*Onion:* The yellow-skinned Bermuda Yellow introduced from the Philippines is an excellent yielder and is suitable for marketing green for raw consumption. There is practically no bolting in this variety. However, its bulbs do not keep as well in storage as those of the commonly grown red-skinned variety, Pusa Red. Two other very high-yielding varieties which can be recommended are Early Crino and Hybrid 4503–6, both introduced from America. These varieties are white-skinned and are particularly suitable for growing during spring.

*Spinach:* Spinach (Spinacca oleracea) is a highly nutritive salad plant. However, it does not seem to have become as popular as it should be. Palak (Beta vulgaris) appears to be better favoured, perhaps because it can be grown practically all the year round, whereas spinach can be grown as a winter crop only. But spinach contains fifty per cent more iron than palak, and about three times as much vitamin C. A Chinese variety has been acclimatized at the Pusa Institute and it grows luxuriantly in Delhi. A variety of palak, yielding about two hundred maunds per acre has been evolved and is recommended for cultivation.

**Insect Pests and Diseases**

For the healthy growth of vegetables, it is essential that insect pests and diseases be properly checked. Spraying the plants with 5% D.D.T. or gammexane occasionally keeps off ants and grasshoppers. Nicotine sulphate should be sprayed against aphids, etc. For the control of rats and rodents it is advisable to use poison baits prepared with zinc phosphate. The garden should be kept clear of weeds, as these harbour insect pests. The diseased plants should

be uprooted and destroyed or composted immediately after they are noticed.

**Rotation of Crops**

Rotation of crops is important for more reasons than one. It conserves plant food and checks the spread of insect pests and diseases. The ideal thing is to plan rotation for the entire garden every year. If this is not possible, the location of various vegetables may be changed each succeeding season. The root crops can be rotated with foliage crops and vice versa. The rotation of crops should be so planned that the ground is fully occupied throughout the year.

**Harvesting**

Vegetables should be picked while they are still tender. They should not be allowed to stay on the plant when they are ready. It is preferable to harvest the vegetables in a systematic way. For instance, in the case of radish, carrot and turnip, the plants should be removed alternately.

Kitchen gardening is a rewarding occupation. It is becoming popular with the realization among people that they must balance their diet with vegetables. This is particularly important in the rural areas where vegetable consumption is the lowest. The kitchen garden provides a useful outlet to the young members and the women of the household to divert their excess energy and enthusiasm towards gainful activity. Provided one has proper guidance and supervision, in addition to enthusiasm, one may be sure of reaping a rich harvest from the kitchen garden.

## APPENDIX

### List of vegetables to be grown in different months

**January**

Water melon, lady's finger, leafy vegetables and brinjal.

**February**

Sponge gourd (turai), lady's finger, brinjal, chaulai, bean and bitter gourd.

**March**

Lady's finger, bottle gourd, brinjal, leafy vegetables, chaulai, beans, sponge gourd (turai), bitter gourd and squash (vegetable marrow).

**April**

Leafy vegetables, chaulai, beans and bitter gourd.

**May**

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**June**

Bottle gourd (lauki), sponge gourd (both varieties), bitter gourd (karela), chilli, lady's finger, arum (arvi), and sem and other climbing beans.

**July**

Lady's finger, tomato, brinjal, sweet potato, coriander, mint (pudina), ginger and papaya.

**August**

French bean, carrot, radish, coriander and cauliflower (early).

**September**

Tomato, papaya, radish.

**October**

Brinjal, onion, French bean, cabbage, cauliflower, potato, leafy vegetables (like methi, chakoth, chaulai, palak etc.) and carrot.

**November**

Tomato, radish, carrot, French bean, cabbage, cauliflower, potato, leafy vegetables, coriander (dhania) and onion.

**December**

Onion, leafy vegetables, radish and cauliflower.

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